

REMARKS

Claims 1-19 are pending. Claims 1-7, 9, 15, and 17 are presently under consideration. Claims 11-14 and 19 have been withdrawn as directed to a non-elected invention. Claims 8, 10, 16, and 18 are directed to non-elected species of the elected invention and have not yet been examined.

Claim 1 has been amended to emphasize that the one or more hydrogel forming polymers are the only polymerizable species present in the composition applied to a substrate surface. Support is found in the specification, for example, at Examples 1 - 7. In each of these examples, the hydrogel forming polymer is the only polymerizable species present. Support is also found at page 5, lines 22-32, where the "covalent bond of the hydrogel layer to the polymer surface" is discussed (the presence of another polymerizable species in the method would produce a different structure). Furthermore, there is no teaching anywhere in the specification of the use of any polymerizable species that is not a hydrogel forming polymer. No new matter has been added.

The claims under consideration have been rejected for alleged anticipation or obviousness. The rejections are traversed, and their reconsideration and withdrawal are respectfully requested in view of the remarks below.

Rejection Under 35 U.S.C. 102(b)

Claims 1, 3-7, and 15 are rejected as allegedly anticipated by Swan et al. US 2002/0004140 A1.

Swan discloses a method of coating a substrate by polymerizing a coating agent onto the substrate to form a base layer and polymerizing a monomer or a "macromer" onto the base

layer formed by the coating agent. The coating agent is a low molecular weight, nonpolymeric core molecule that possesses one class of photoreactive groups for attachment to the substrate and another class of photoreactive groups for attachment to the upper polymer layer. See Swan at [0044] - [0045].

Swan teaches an embodiment in which a macromer is attached as the upper layer polymer to a base layer coating agent. The macromer can be a hydrogel forming polymer such as polyvinylpyrrolidone (PVP). In Swan Example 6, a PVP K-90 hydrogel forming polymer is attached to a base layer formed from the coating agent DBDS to a substrate surface. In this example, the hydrogel-forming polymer, PVP, is not attached to the substrate directly, but is attached to a base layer formed from the polymerized coating agent, DBDS.

In order to form his base layer, made from a coating agent, and his upper polymer layer, made from a monomer or macromer, Swan uses one of two alternative methods. Swan at [0022]. In the sequential method, Swan first polymerizes the base layer from a coating agent, and then polymerizes the upper layer from a monomer or a macromer. In the simultaneous method, Swan polymerizes both layers from a single mixture containing both the coating agent and the monomer or macromer. In no case does Swan polymerize the monomer or macromer directly onto the surface to be coated. Swan always uses a coating agent in addition to the polymerizable moiety (monomer or macromer) that forms the upper layer. The use of a coating agent is the entire point of Swan's invention. See, e.g., Swan at [0069], referring to "polymerizable groups" being polymerized and bound to the support surface "via the coating agent".

In contrast to Swan, the presently claimed invention requires a hydrogel layer that is formed from a hydrogel forming polymer that is further polymerized and coupled directly to the surface of a substrate, without the use of any additional polymerizable moiety such as Swan's coating agent. In order to clarify this aspect, the claims have been amended to state that the hydrogel forming polymer of the present invention is the only polymerizable species present in the composition applied to the substrate surface. Swan never teaches or suggests such a coating composition, because the use of such a composition would avoid the entire basis for Swan's invention, the coating agent.

It must be emphasized that Swan's coating agent is in no way equivalent to the hydrogel forming polymer of the present invention. Swan's coating agent is formed from a non-polymeric, low molecular weight (100-1,000 Dalton) monomer (never a "macromer") which is especially adapted to reach with itself (i.e., to polymerize), with the substrate surface, and (in the simultaneous embodiment) with the upper polymer layer. Swan at [0045]. The coating agent has first and second photoreactive species which are so arranged on the coating agent as to prevent both photoreactive species from attaching to a single support surface. Swan at [0018] - [0020] and [0023] - [0024]. Swan's coating agent thus forms a thin polymeric layer upon photoinitiation that interfaces between the substrate surface and the upper layer, and that provides the desired physical and chemical surface properties to the substrate. Swan at [0040] - [0045]. While Swan's macromer is similar to the hydrogel forming polymer of the present invention, Swan uses his macromer only for the upper polymer layer and never for the base layer. Thus, from the point of view of both structure and function,

Swan's coating agent and Swan's macromer are not interchangeable.

Therefore, Swan does not anticipate the instant claims because Swan does not disclose a method in which a composition having hydrogel forming polymers as the only polymerizable species is applied to a polymer surface. The withdrawal of this rejection is respectfully requested.

Rejections Under 35 U.S.C. 103(a)

Claim 2 is rejected as allegedly obvious over Swan et al. (US 2002/0004140 A1). The Office Action refers to Swan's teaching of the use of electromagnetic radiation in the range of 330-340 nm to drive the photoinitiation reaction, which is within the range required in claim 2. As discussed above, however, Swan fails to provide every limitation of the claims, because Swan neither teaches nor suggests the use of a hydrogel forming polymer as the only polymerizable species. Therefore, claim 2 is not obvious over Swan.

Claims 9 and 17 are rejected as allegedly obvious over Swan in view of Kondo et al. (JP 54060386A). Kondo is cited for teaching the use of nicotinic acid derivatives as photoinitiator. Claims 9 and 17 require nicotinic acid amide as photoinitiator. Again, as discussed above, Swan fails to provide every limitation of the claims, because Swan neither teaches nor suggests the use of a hydrogel forming polymer as the only polymerizable species. Therefore, claims 9 and 17 are not obvious over Swan.

The withdrawal of these rejections is respectfully requested.

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The Examiner is encouraged to telephone the undersigned attorney to discuss any matter which would expedite allowance of the present application.

Respectfully submitted,

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